

REMARKS

Applicants appreciate the Examiner's thorough consideration provided the present application. Claims 1-47 are now present in the application. The abstract and claims 1, 9, 11, 17-21, 23, 25-31 and 34-39 have been amended. Claim 47 has been added. Claims 1, 9, 17-20, 31, 34-37, 39 and 41 are independent. Reconsideration of this application, as amended, is respectfully requested.

Allowable Subject Matter

The Examiner has indicated that claims 41-46 are allowed and dependent claims 2, 5-10, 13, 17-24, 27-29, 31, 32, 35-37, 39 and 40 would be allowable if rewritten to include all of the limitations of the base claim and any intervening claims. Applicants greatly appreciate the indication of allowable subject matter by the Examiner.

By the present amendment, claims 9, 17-20, 23, 27-29, 31, 35-37 and 39 have been rewritten in independent form to include the subject matter of their respective base claims 1, 25 and 34. Accordingly, it is believed that claims 9, 17-20, 23, 27-29, 31, 35-37 and 39 and their dependent claims (if any) are in condition for allowance.

Priority Under 35 U.S.C. §119

Applicants thank the Examiner for acknowledging Applicants' claim for foreign priority under 35 U.S.C. §119, and receipt of the certified priority document.

Information Disclosure Citation

Applicants thank the Examiner for considering the references supplied with the Information Disclosure Statement filed on April 22, 2005, and for providing Applicants with an initialed copy of the PTO-1449 form filed therewith.

Drawings

Applicants thank the Examiner for accepting the formal drawings of the instant application.

Claim Rejections Under 35 U.S.C. §§ 102 & 103

Claims 1, 3, 4, 11, 12, 15, 16 and 34 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Fong, GB-1206112. Claims 25, 26 and 30 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Suhr, U.S. Patent No. 3,243,620. Claims 14 and 38 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Fong in view of Suhr. Claim 33 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Suhr in view of Fong. These rejections are respectfully traversed.

Complete discussions of the Examiner's rejections are set forth in the Office Action, and are not being repeated here.

In light of the foregoing amendments to the claims, Applicants respectfully submit that these rejections have been obviated and/or rendered moot. Without conceding to the propriety of the Examiner's rejections, but merely to timely advance the prosecution of the application, as the

Examiner will note, independent claims 1, 25 and 34 have been amended to address the Examiner's rejections.

Independent claim 1 now recites a combination of elements including "a plurality of flux barriers, one and the other ends of the flux barriers approaching the bars formed in first and second areas facing each other at a predetermined angle on a central line of a first axis on a core plane vertical to the coupling direction, wherein the flux barriers pass through a third or fourth area between the first and second areas and detour around the axis coupling hole so that intervals between the axis coupling hole and the flux barrier are substantially uniform."

Independent claim 25 now recites a combination of elements including "a plurality of flux barriers having their both ends aligned in one direction to approach the bars, respectively, central lines of the bars facing the center of the core and central lines of both ends of the flux barriers being formed in the same directions, the flux barriers being spaced apart from the axis coupling hole."

Independent claim 34 now recites a combination of elements including "a plurality of flux barriers having their both ends aligned in one direction to approach the bars, respectively, a width of the flux barriers being substantially equal to that of the bars which both ends of the flux barriers approach."

Support for the above combinations of elements can be found in FIGs. 1-6 as originally filed. Applicants respectfully submit that the combination of elements set forth in claims 1, 25 and 34 are not disclosed or suggested by the references relied on by the Examiner.

Claim 1

Fong in FIGs. 7 and 8 discloses a plurality of flux barriers. For example, Fong in FIG. 7 discloses an axis coupling hole, a plurality of straight flux barriers 26, 27 and 28, and a plurality of non-straight flux barriers 24, 25, 29 and 30. However, none of the straight flux barriers 26, 27 and 28 and non-straight flux barriers 24, 25, 29 and 30 detour around the axis coupling hole so that intervals between the axis coupling hole and the flux barrier are substantially uniform. Therefore, Fong fails to teach “the flux barriers pass through a third or fourth area between the first and second areas and detour around the axis coupling hole so that intervals between the axis coupling hole and the flux barrier are substantially uniform” as recited in amended independent claim 1.

Claim 25

Suhr discloses a rotor structure including a shaft 43, a plurality of reluctance slots 47-50 filled with nonmagnetic material 55 (see FIG. 5.) The Examiner referred to the reluctance slots 47-50 as the flux barriers of claim 25. As shown in FIG. 5 of Suhr, the reluctance slots 47-50 are in contact with the shaft 43, which is fitted into an axis coupling hole. Therefore, Suhr fails to teach “a plurality of flux barriers having their both ends aligned in one direction to approach the bars, respectively, central lines of the bars facing the center of the core and central lines of both ends of the flux barriers being formed in the same directions, the flux barriers being spaced apart from the axis coupling hole” as recited in amended independent claim 25.

In addition, Suhr discloses that by eliminating the bridged sections between the central aperture (24 in FIG. 1 and 46 in FIG. 5) and the reluctance slots, significant improvement in

certain operating characteristics of the motor can be achieved (see col. 3, lines 32-43.) Therefore, this teaches away from spacing the reluctance slots from the central aperture where the axis coupling hole is located. Accordingly, one skilled in the art would not have the motivation to modify Suhr to make the reluctance slots 47-50 spaced apart from the axis coupling hole.

Claim 34

As shown in FIGs. 1-8 of Fong, the width of the flux barriers (e.g., 26-28) is smaller than the width of the bar 2. In addition, as shown in FIG. 5 of Suhr, the width of the reluctance slots 47-50 is larger than the width of the squirrel cage conductor 44. Therefore, Fong and Suhr fail to teach “a plurality of flux barriers having their both ends aligned in one direction to approach the bars, respectively, a width of the flux barriers being substantially equal to that of the bars which both ends of the flux barriers approach” as recited in amended independent claim 34.

Accordingly, neither of the utilized references individually or in combination teaches or suggests the limitations of amended independent claims 1, 25 and 34. Therefore, Applicants respectfully submit that amended independent claims 1, 25 and 34 clearly define over the teachings of the utilized references.

In addition, claims 3, 4, 11, 12, 14-16, 26, 30, 33 and 38 depend, either directly or indirectly, from independent claims 1, 25 and 34, and are therefore allowable based on their respective dependence from independent claims 1, 25 and 34, which are believed to be allowable.

In view of the above remarks, Applicants respectfully submit that claims 1, 3, 4, 11, 12, 14-16, 25, 26, 30, 33, 34 and 38 clearly define the present invention over the references relied on

by the Examiner. Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. §§ 102 and 103 are respectfully requested.

Additional Claim

Claim 47 has been added for the Examiner's consideration. Applicants respectfully submit that claim 47 depends directly from amended independent claim 34, and is therefore allowable based on its dependence from amended independent claim 34, which is believed to be allowable. Consideration and allowance of claim 47 are respectfully requested.

Additional Cited References

Since the remaining patents cited by the Examiner have not been utilized to reject the claims, but rather to merely show the state of the art, no further comments are necessary with respect thereto.

CONCLUSION

All the stated grounds of rejection have been properly traversed and/or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently pending rejections and that they be withdrawn.

It is believed that a full and complete response has been made to the Office Action, and that as such, the Examiner is respectfully requested to send the application to Issue.

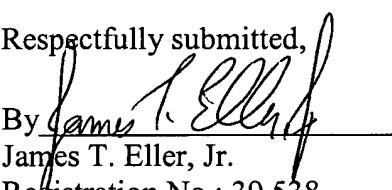
In the event there are any matters remaining in this application, the Examiner is invited to contact the undersigned at (703) 205-8000 in the Washington, D.C. area.

Pursuant to 37 C.F.R. §§ 1.17 and 1.136(a), Applicants respectfully petition for a two (2) month extension of time for filing a response in connection with the present application and the required fee is attached herewith.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§1.16 or 1.17; particularly, extension of time fees.

Dated: December 7, 2006

Respectfully submitted,

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